CALS TEST NETWORK

AFCTN Test Report 94-022

AFCTB-ID 93-056

Technical Publication Transfer

Using:

Northrop Corporation's Data

MIL-D-28000A (IGES)
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)
MIL-D-28003 (CGM)

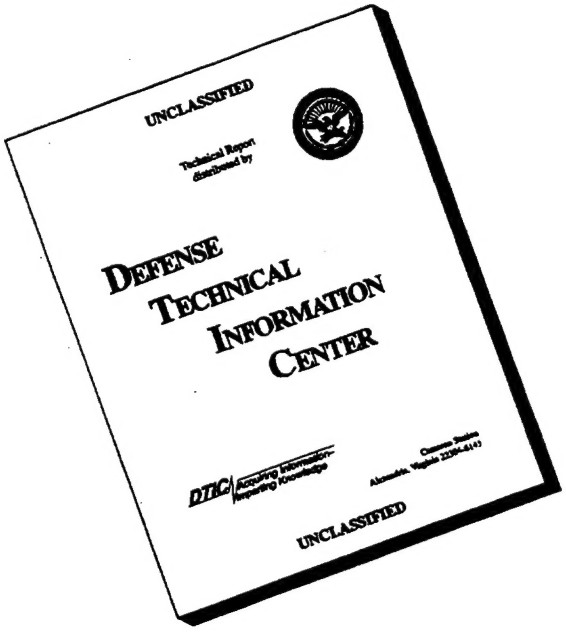
Quick Short Test Report

03 June 1993

Prepared for

Electronic Systems Center

DISCLAIMER NOTICE



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Quick Short Test Report

03 June 1993

Prepared By
Air Force CALS Test Bed
Wright-Patterson AFB, OH 45433

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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Northrop Corporation's interpretation and use of the CALS standards, in transferring technical publication data. Northrop used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 93-056

Date of Evaluation: 03 June 1993

Evaluator:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
John P Kent
Northrop Corporation
B-2 Division, M/S L591/GK
8900 East Washington Blvd
Pico Rivera CA 90660
(310) 948-0624

Data Description:
Technical Manual Test
2 Document Declaration file
2 Document Type Definition (DTD)
1 Initial Graphics Exchange Standard (IGES) file
2 Text/Standard Generalized Markup Language (SGML) file
1 Raster file
1 Computer Graphics Metafile (CGM) file

Data Source System:
1840

HARDWARE

Unknown

SOFTWARE

Unknown

IGES

HARDWARE

Unknown

SOFTWARE

Unknown

Text/SGML

HARDWARE

Unknown

SOFTWARE

Unknown

Raster

HARDWARE

Unknown

SOFTWARE

Unknown

CGM

HARDWARE

Unknown

SOFTWARE

Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN *Tapetool v1.2.9 UNIX*
XSoft *CAPS/CALS v40.4*
Texas Instruments (TI) *Tapetool v1.0.1*

PC 486/50

AFCTN *Tapetool v1.2.9 DOS*

MIL-D-28000 (IGES)

Sun SparcStation 2

ArborText *iges2draw*
Carberry *CADLeaf Plus v3.1*
IGES Data Analysis (IDA) *Parser/Verifier v92*
IDA *IGESView v3.05*
International TechneGroup Incorporated (ITI) *IGES/Works v1.3*
Rosetta Technologies *Preview v3.2*

PC 486/50

AUTODESK *AutoCAD 386 R11*
AUTODESK Micro Engineering Solutions

(MES) *CheckMark v1.0*
Cadkey *Cadkey v5.02*
Cadkey *Cadkey v4.06*
IDA *IGESView Windows*
Wiz Worx *IGESPeek*

MIL-M-28001 (SGML)

PC 486/50

Exoterica *XGMLNormalizer v1.2e3.2*
Exoterica *Validator v2.0 exl*
McAfee & McAdam *Sema Mark-it v2.3*
Public Domain *sgmls*

MIL-R-28002 (Raster)

SUN SparcStation 2

ArborText *g42tiff*
Carberry *CADLeaf Plus v3.1*
AFCTN *validg4*
AFCTN *calstb.475*
IDA *IGESView v3.0*
Island Graphics *IslandPaint v3.0*

PC 486/50

IDA *IGESView Windows*
Inset Systems *HiJaak v2.1*
Inset Systems *HiJaak Window v1.0*
Corel *Ventura Publisher*

MIL-D-28003 (CGM)

SUN SparcStation 2

ArborText *cgm2draw*
Island Graphics *IslandDraw v3.0*
Carberry *CADLeaf Plus v3.1*

PC 486/50

Software Publishing Corporation
(SPC) *Harvard Graphics v3.05*
Inset Systems *HiJaak v2.1*
Inset Systems *HiJaak v1.0 Windows*
Micrografx *Designer v3.1*
Micrografx *Charisma v2.1*
Corel *Ventura Publisher*

Standards Tested:

MIL-STD-1840A
MIL-D-28000A
MIL-M-28001A
MIL-R-28002A
MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool v1.2.9* utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using XSoft's *CAPS read1840A* utility without any reported errors. The tape was read using TI's *Tapetool v1.0.1*.

The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file and data file headers.

This portion of the tape meets the CALS MIL-STD-1840A requirements.

4. IGES Analysis

The tape contained one IGES file. This file was evaluated using IDA's *Parser* and *Verifier* set for CALS Class I. No errors were reported by this utility.

The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The file was converted using ArborText's *iges2draw* utility with no reported errors. The resulting file was read into Island Graphics' *IslandDraw* and displayed. The resulting partial image was displayed on the left side of the screen. The problem was traced to a negative X value for the lower left corner of the image. A switch was set in the *iges2draw* software which brought the image into view.

The file was converted using Cadkey's *ig2c* utility. The resulting file was read into Cadkey's *Cadkey* and displayed.

The file was read into Carberry's *CADLeaf* software without a reported error. It displayed a partial image, located on the left side of the screen.

The file was read using IDA's *IGESView* and *IGESView for Windows*, displayed and printed.

The file was read using ITI's *IGESWorks* without a reported error and displayed with no apparent errors.

The IGES file was converted using Rosetta Technologies' *Prepare* without a reported error. The resulting file was read into Rosetta Technologies' *Preview* and displayed with no apparent errors.

The included IGES file meets the CALS MIL-D-28000A specification.

5. SGML Analysis

The tape contained two documents. Both documents contain a DTD and Text file. The first DTD and Text file was "unique" while the second was "normal". Each document is discussed individually in this section.

The AFCTB has several parsers available for evaluating submitted DTD and Text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or Text files required by each system are not documented in the report.

5.1 Document One

The Text and DTD files from the first document were tested using Exoterica's *XGMLNormalizer* parser. The initial pass through the DTD generated four errors. The errors relate to the included concrete definition. This definition file was replaced with one available in the AFCTB. No errors were reported in the DTD or Text files using the replacement file.

The Text and DTD files from the tape were evaluated using another parser available within the AFCTB. As submitted on the tape, the DTD would not parse.

The Text and DTD files from this document were evaluated using Exoterica's *Validator exl* parser. Using the provided files, 106 errors and two warnings were generated. Most of these errors were traced to the submitted concrete definition. After the concrete definition was replace, no errors were reported.

The Text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser with many reported errors.

The DTD and Text files from the first document do not meet the CALS MIL-M-28001A specification.

5.2 Document Two

The Text and DTD files from this document were evaluated using Exoterica's *Validator exl* parser with no reported errors.

The Text and DTD files from this document were tested using Exoterica's *XGMLNormalizer* parser with no reported errors.

The Text and DTD files from the tape were evaluated using McAfee & McAdam's *Sema Mark-it* parser with no reported errors.

The Text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser with no reported errors.

The Text and DTD files from the second document meet the CALS MIL-M-28001A specification.

6. Raster Analysis

The tape contained one Raster file. This file was evaluated using the AFCTN *validg4* utility. This program reported that the file meets the CALS MIL-R-28002A specification.

The file was read into the AFCTN *calstb.475* viewing utility. No problems were noted although a slight angle was noted.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The file was converted using ArborText's *g42tiff* utility without a reported error. The resulting file was read into Island Graphics' *IslandPaint* and displayed.

The Raster file was read into Carberry's *CADLeaf* software without a reported error and displayed.

The file was read into IDA's *IGESView* and *IGESView for Windows* without a reported error. The image was displayed using this utility without a problem.

The file was read into Inset Systems' *HiJaak for Windows*, displayed and printed without a reported error.

The Raster file was converted using Rosetta Technologies' *Prepare* without a reported error. The resulting file was read into Rosetta Technologies' *Preview* and displayed.

The Raster file meets the CALS MIL-R-28002A specification.

7. CGM Analysis

The tape contained one CGM file. The file was evaluated using a software available within the AFCTB with CALS options, which reported it as meeting the CALS MIL-D-28003 specification.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor and indication of CALS capability. All operations were performed using the default settings.

The CGM file was converted using ArborText's *cgm2draw* utility without a reported error. The resulting file was read into Island Graphics' *IslandDraw* and displayed. Some text overflow was noted in the blocks.

The file was read into Carberry's *CADLeaf* software, displayed and printed. The text overflow noted in the *cgm2draw/IslandDraw* import was noted here. The image displayed in color.

An attempt to read into Inset Systems' *HiJaak for Windows* resulting in an error condition reported.

The file was imported directly into Island Graphics' *IslandDraw* without a reported error. The displayed image had problems in the restricted text area where the text overflowed the defined area. The elliptical arc, both open and closed, were not displayed correctly.

An attempt to imported the file into the Micrografx *Designer* resulted in nothing being displayed and no error messages. When the file was imported into the Micrografx *Charisma* an error message was generated.

According to Michael Harrison of Micrografx, "Micrografx is aware of the problems associated with reading these files and is working on a solution to be implemented in a future release of our products."

The file was imported into SPC's *Harvard Graphics v3.05* with line style, non-CGM entities, adjustment of points, and non-translated object error messages being generated. The resulting file was not usable.

An attempt to imported the file into Corel's *Ventura Publisher* resulted in a non-valid file structure message being generated.

An attempt to import the file into Corel's *CoralDraw* resulted in a error message being generated.

While the file was reported as meeting the CALS MIL-D-28003 specification, none of the commercial tools available in the AFCTB could import and display the image completely correct. None of the PC based tools could import the file in any usable form.

8. Conclusions and Recommendations

The physical structure and CALS headers of the tape were correct, and meets the CALS MIL-STD-1840A requirements.

The IGES file meets the CALS MIL-D-28000A specification.

Document one of the SGML files does not meet the CALS MIL-M-28001A specification. Document two of the SGML files meets the CALS specification.

The Raster file meets the CALS MIL-R-28002A specification.

The CGM file was reported as meeting the CALS MIL-D-28003 specification. However, none of the commercial CGM software tools, available in the AFCTB, could import the file and display it completely correct.

Because of the SGML errors in document one, the tape does not meet the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

```
Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release 9 (0)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Jun  3 10:53:14 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/u129/Set010

                                                                    Page: 1
```

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000001	Extracted
D001G002	DTD	D/00260	02048/000003	Extracted
D001H003	Output Specification	D/00260	02048/000016	Extracted
D002T001	Text	D/00260	02048/000002	Extracted
D002C002	CGM	F/00080	00800/000006	Extracted
D002R003	Raster	F/00128	02048/000017	Extracted
D002Q004	IGES	F/00080	02000/000012	Extracted
D002G005	DTD	D/00260	02048/000010	Extracted
D002H006	Output Specification	D/00260	02048/000061	Extracted

```
Catalog Process terminated normally.
```

9.2 Tape Evaluation Log

```
Air Force CALS Test Network Tape Evaluation - Version 1.2; Release 9 (0)
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Jun  3 10:52:58 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01                CONTROLLER                                        4

  Label Identifier: VOL1
  Volume Identifier: ITDS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001             ITDS0100010001000100 93145 93145 000000  CONTROLLER

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93145
  Expiration Date:  93145
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:   CONTROLLER

HDR2D0204800260                                    00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00
```

```
************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

************ Tape Mark ***************

EOF1D001              ITDS0100010001000100 93145 93145 000001  CONTROLLER

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93145
  Expiration Date:  93145
  File Accessibility:
  Block Count: 000001
  Implementation Identifier:   CONTROLLER

EOF2D0204800260                                    00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

************ Tape Mark ***************

                    <<<<< PART OF LOG REMOVED HERE >>>>>

************ Tape Mark ***************

************ Tape Mark ***************

############ End of Volume ITDS01 ##############

############ End Of Tape File Set ##############

Deallocating /dev/rmt0...

Tape Import Process terminated normally.
```

9.3 Tape File Set Validation Log

```
Air Force CALS Test Network File Set Evaluation - Version 1.2; Release 9 (O)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Thu Jun  3 10:53:14 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set010

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division, L591/GK
E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: STPRO25.2.4
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930525
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.2.4
dstrelid: NONE
dtetrn: 19930525
dlvacc: NONE
filcnt: T1, H1, G1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: DIRECTIVE
docttl: Test of error reports

                    <<<<< PART OF LOG REMOVED HERE >>>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.
```

```
Found file: D002
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division, L591/GK
E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: STPRO25.2.5
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930525
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.2.5
dstrelid: NONE
dtetrn: 19930525
dlvacc: NONE
filcnt: T1, H1, G1, C1, Q1, R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: DIRECTIVE
docttl: Test of local directives
```

<<<<< *PART OF LOG REMOVED HERE* >>>>>

```
Saving Output Specification Header File: D002H006_HDR
Saving Output Specification Data File: D002H006_OS

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D002.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

10. Appendix B - Detailed IGES Analysis

10.1 File D002Q004

10.1.1 Parser/Verifier Log

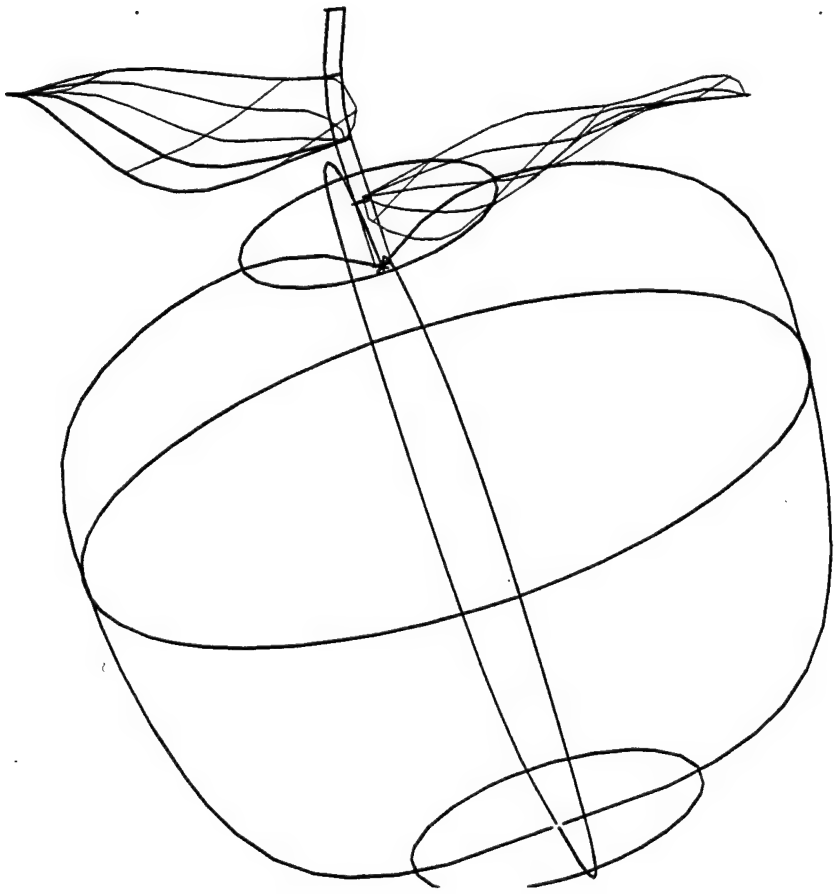
```
          *** IGES DATA FILE ANALYSIS ***
          ***       MARCH 1992       ***
          ***   IGES Data Analysis   ***
          ***     (708) 449-3430     ***

 Input file is /novell/9356/q204.igs

 Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

 Today is June 3, 1993  11:46 AM

*** File and Product Name Information ***

   File name from sender     = 'Q004.iges'
   File creation Date.Time   = '930525.150907'
   Model change Date.Time    = ''
   Author                    = 'tom'
   Department                = 'GRAPHICS'
   Product name from sender  = 'Q004.iges'
   Destination product name  = 'Q004.iges'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version   = '1.0'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***
```

```
   Model scale            =  1.0000E+00
   Unit flag              =  1
   Units                  =  'IN'
   Line weights           =  3
   Maximum line thickness =  1.000000E-02
   Minimum line thickness =  3.333333E-03
   Granularity            =  1.000000E-03
   Maximum coordinate     =  2.954101E+00

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status: Visible                      41
               Blanked                       0

 Independence: Independent                  39
               Physically Subordinate        0
               Logically Subordinate         2
               Totally Subordinate           0

 Entity use:   Geometry                     39
               Annotation                    2
               Definition                    0
               Other                         0
               Logical/Positional            0
               2D parametric                 0
               Not Specified                 0

 Hierarchy:    Structure DE applies          0
               Subordinate DE applies       41
               Hierarchy property applies    0
               Not Specified                 0

*** Entity Occurrence Counts ***

 Entity   Form   Level    Count    Type
 ------   ----   -----    -----    ----

   106      11       0       24    Copious data - Piecewise planar, linear string(2D
   path)
   106      63       0        8    Simple closed planar curve
   110       0       0        6    Line
   404       0       0        1    Drawing
   406      16       0        1    Property - Drawing size
   410       0       0        1    View - Orthographic parallel
```

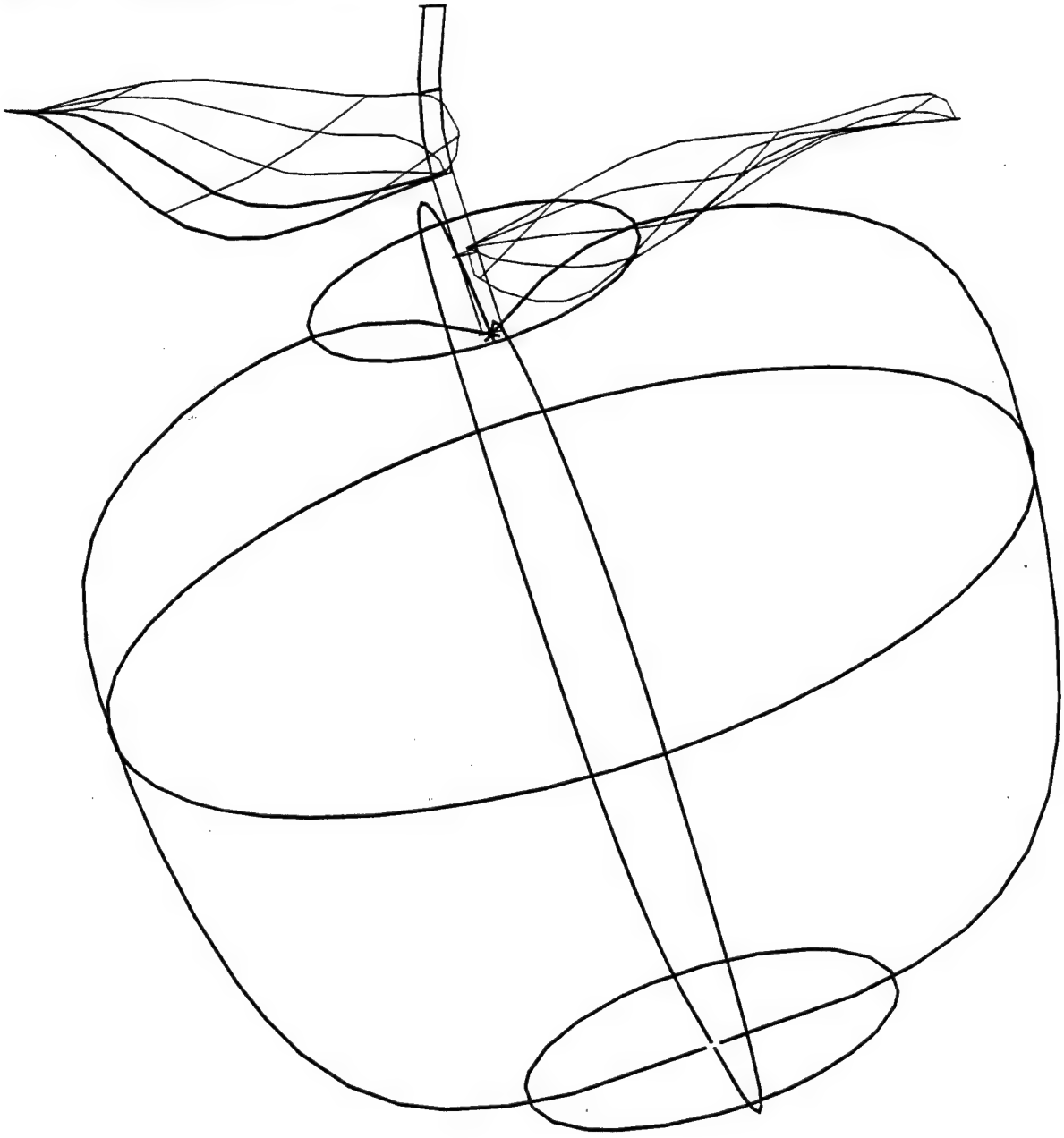
```
*** Entity Count by Level ***

   Level  Count
       0     41

*** Labeling Information ***

   0% of the entities are labeled.

   Unlabeled      41

*** Line Fonts Used in Data ***

100   102   104   106   108   110   112   114

 -     -     -     -     -     -     -     -   Undefined
 -     -     -    32     -     6     -     -   Solid
 -     -     -     -     -     -     -     -   Dashed
 -     -     -     -     -     -     -     -   Phantom
 -     -     -     -     -     -     -     -   Center-line
 -     -     -     -     -     -     -     -   Dotted
 -     -     -     -     -     -     -     -   User defined

                    <<<<< PART OF LOG REMOVED HERE >>>>>

*** Line Widths Used in Data ***

    Weight       Count      Width

 Defaulted         31       (0.0033)
      2            10       (0.0067)

*** Colors Used in Data ***

 Defaulted         3
       Red         8
     Green        30

********************************
******  ENTITY ANALYSIS  ******
********************************

*** Entity type: 106

*** Entity type: 110
```

```
  --     6 lines averaging 1.362447E-01 units --

 *** Entity type: 404

Drawing at D      5 contains 1 views.
Drawing at D      5 contains 0 annotation entities.

 *** Entity type: 406

 *** Entity type: 410

  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set       XMAX = Not Set
   YMIN = Not Set       YMAX = Not Set
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

 *** Error Summary ***

     0 fatal errors
     0 severe errors
     0 errors
     0 warnings
     0 cautions
     0 nitpicks
     0 notes

 *** End of Analysis of /novell/9356/q204.igs ***
```

10.1.2 Output IGESView



10.1.3 Output Preview



11. Appendix C - Detailed SGML Analysis

11.1 Document One

11.1.1 Validator exl

```
<!-- Entity has no name, system id or public id in formal file -->.
<!-- **Warning** in "i:\9356\d001g002.", line 30:
   A base character set in the concrete syntax part of an SGML Declaration is
   not used in the document character set part of the SGML Declaration.
   The public identifier of the base character set is "ANSI X3.4-1986//CHARSET
   American Standard Code for Information Interchange (ASCII)//ESC 2/8 4/2".
               Information Interchange (ASCII)//ESC 2/8 4/2"
                                                          /\
-->
<!-- **Error** in "i:\9356\d001g002.", line 32:
   The meaning of each significant base character must be assigned to one, and
   only one, syntax character in the SGML Declaration.
   The first unassigned or multiply assigned character is "0".
   FUNCTION    RE                    13
  /\
-->
<!-- **Error** in "i:\9356\d001g002.", line 32:
   The meaning of each significant base character must be assigned to one, and
   only one, syntax character in the SGML Declaration.
   The first unassigned or multiply assigned character is "1".
   FUNCTION    RE                    13
  /\
-->
                    <<<<< PART OF LOG REMOVED HERE >>>>>


<!-- **Error** in "i:\9356\d001g002.", line 33:
   A function character must not be assigned to a syntax reference character
   that is not mapped to a document character.
   The function character is character number 10.
               RS                    10
                                     ^^
-->
<!-- **Error** in "i:\9356\d001g002.", line 34:
   A function character must not be assigned to a syntax reference character
   that is not mapped to a document character.
   The function character is character number 32.
               SPACE                 32
```

```
                                        ^^
-->
<!-- **Error** in "i:\9356\d001g002.", line 35:
   A function character must not be assigned to a syntax reference character
   that is not mapped to a document character.
   The function character is character number 9.
            TAB         SEPCHAR      9
                                     ^
-->
<!-- **Error** in "i:\9356\d001g002.", line 38:
   A character in a parameter literal in the naming rules, general delimiter or
   short reference delimiter parameter of the SGML Declaration must be assigned
   to a unique character in the document character set.
   The unassigned or multiply assigned character is "-".
            LCNMCHAR    "-."
                         ^^
-->
<!-- **Error** in "i:\9356\d001g002.", line 39:
   A character in a parameter literal in the naming rules, general delimiter or
   short reference delimiter parameter of the SGML Declaration must be assigned
   to a unique character in the document character set.
   The unassigned or multiply assigned character is "-".
            UCNMCHAR    "-."
                         ^^
-->
<!-- **Error** in "i:\9356\d001g002.", line 43:
   A reference short reference delimiter, used because SHORTREF SGMLREF is
   specified in the SGML Declaration, must not contain one or more that are not
   mapped to unique document characters.
   The short reference delimiter is "   ".
            SHORTREF    SGMLREF
                       /\
-->

                    <<<<< PART OF LOG REMOVED HERE >>>>>

<!-- **Error** in "i:\9356\d001g002.", line 89:
   Recognized a delimiter or data not allowed in the current context.
   The unrecognized text is "   viewdef         -".
   <!ELEMENT viewdef  - o (viewport+)>
            ^^^^^^^^^^^
-->
<!-- **Error** in "i:\9356\d001g002.", line 90:
   Recognized a delimiter or data not allowed in the current context.
   The unrecognized text is "   viewport        -".
   <!ELEMENT viewport - o EMPTY >
            ^^^^^^^^^^^
```

```
-->
<!-- **Error** in "i:\9356\d001g002.", line 91:
   Recognized a delimiter or data not allowed in the current context.
   The unrecognized text is "   viewport".
   <!ATTLIST viewport
             ^^^^^^^^^

-->
<!-- **Error** in "i:\9356\d001g002.", line 108:
   Recognized a delimiter or data not allowed in the current context.
   The unrecognized text is "           viewport".
     viewport     IDREFS      #IMPLIED>
   ^^^^^^^^^^

-->
<!-- **Error** in "i:\9356\d001g002.", line 114:
   Recognized a delimiter or data not allowed in the current context.
   The unrecognized text is "                              viewport".
       viewport     IDREFS      #IMPLIED>
   ^^^^^^^^^^^^

-->
<!-- **Error** in "i:\9356\d001g002.", line 122:
   Recognized a delimiter or data not allowed in the current context.
   The unrecognized text is "                                viewport".
       viewport     IDREFS      #IMPLIED>
   ^^^^^^^^^^^^

-->
<!-- **Warning** in "i:\9356\d001g002.", line 128:
   An element name specified in a USEMAP declaration, ATTLIST declaration or
   content model is not defined by an ELEMENT declaration.
   The element name is "VIEWDEF".
-->
<!-- **Error** in "i:\9356\d001g002.", line 129:
   The document instance must consist of at least one tag or data character.
   The following element can start: "DOC".
-->
<!-- **Error** in "i:\9356\d001g002.", line 129:
   The start tag of an element that has one or more required attributes must
   not be omitted.
   Attribute "FOSICITE" of element "DOC" is REQUIRED.
-->
<!-- **Error** in "i:\9356\d001g002.", line 129:
   A start tag with a start tag minimization of minus ("-") must not be
   omitted.
   The element is "FRONT".
-->
<!-- **Error** in "i:\9356\d001g002.", line 129:
   An element must not end before its content model is completely satisfied.
   The element with unsatisfied content is "FRONT".
```

```
-->
<!-- **Error** in "i:\9356\d001g002.", line 129:
   A start tag with a start tag minimization of minus ("-") must not be
   omitted.
   The element is "BODY".
-->
<!-- **Error** in "i:\9356\d001g002.", line 129:
   A start tag with a start tag minimization of minus ("-") must not be
   omitted.
   The element is "CLOSING".
-->
<!-- **Error** in "i:\9356\d001g002.", line 129:
   An end tag that has been declared inomissible ("-") must not be omitted.
   The element is "DOC".
-->
<!-- 106 errors and 2 warnings reported. -->
```

11.1.2 Parser Log

```
            SGML Document Type Definition Parser
                An SGML System Conforming to
              International Standard ISO 8879
            Standard Generalized Markup Language

Log file: '9356-1.LOG'
SDO File: 'ctndecl.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: '9356-1.dtd'

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

DTD0169: GRPCNT of 50 is greater than 48.
In declaration: '<!DOCTYPE'. in line 104 in file '9354-1.dtd'
DTD0169: GRPCNT of 51 is greater than 48.
In declaration: '<!DOCTYPE'. in line 104 in file '9354-1.dtd'

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

DTD does not conform to ISO 8879 standard due to these errors: Reference quantity set
    count: 32 Uncorrectable syntax error count: 1 .DTO file not created due to parsing
    errors.

Program status code: 5.
```

11.1.3 Exoterica XGMLNormalizer Parser

```
C:\XGML\XGMLNORM.EXE --
Error on line 32 in file 9356-1.sgm:
Error in the SGML Declaration.
The last text seen was "13".
Attempt to use an undefined character for function RE.

C:\XGML\XGMLNORM.EXE --
Error on line 33 in file 9356-1.sgm:
Error in the SGML Declaration.
The last text seen was "10".
Attempt to use an undefined character for function RS.

C:\XGML\XGMLNORM.EXE --
Error on line 34 in file 9356-1.sgm:
Error in the SGML Declaration.
The last text seen was "32".
Attempt to use an undefined character for function SPACE.

C:\XGML\XGMLNORM.EXE --
Error on line 35 in file 9356-1.sgm:
Error in the SGML Declaration.
The last text seen was "9".
Attempt to use an undefined character for added function TAB.
<!-- The SGML Declaration is in error. -->
```

11.1.4 Public Domain sgmls Log

```
sgmls: SGML error at 9356-1.sgm, line 1 at "L":
       SGML markup declaration not permitted here; declaration ended
sgmls: SGML error at 9356-1.sgm, line 1 at " ":
       No DOCTYPE declaration; document type is unknown
sgmls: SGML error at 9356-1.sgm, line 57 at "E":
       DOCTYPE markup declaration not permitted here; declaration ended
       Element structure: *DOCTYPE
sgmls: SGML error at 9356-1.sgm, line 60 at "N":
       NOTATION markup declaration not permitted here; declaration ended
       Element structure: *DOCTYPE

                    <<<<< PART OF LOG REMOVED HERE >>>>>

sgmls: SGML error at 9356-1.sgm, line 132 at "b":
```

```
       Possible attributes treated as data because none were defined
       Element structure: *DOCTYPE
sgmls: SGML error at 9356-1.sgm, line 132 at " ":
       Undefined DOC start-tag GI ignored; not used in DTD
       Element structure: *DOCTYPE
sgmls: SGML error at 9356-1.sgm, line 134 at ">":
       Undefined FRONT start-tag GI ignored; not used in DTD
       Element structure: *DOCTYPE
sgmls: SGML error at 9356-1.sgm, line 134 at ">":
       Undefined A11 start-tag GI ignored; not used in DTD
       Element structure: *DOCTYPE

                    <<<<< PART OF LOG REMOVED HERE >>>>>

sgmls: SGML error at 9356-1.sgm, line 141 at ">":
       No element declaration for DOC end-tag GI; end-tag ignored
       Element structure: *DOCTYPE
TOTALCAP     32/200000
 ELEMCAP     32/200000
```

11.2 Document Two

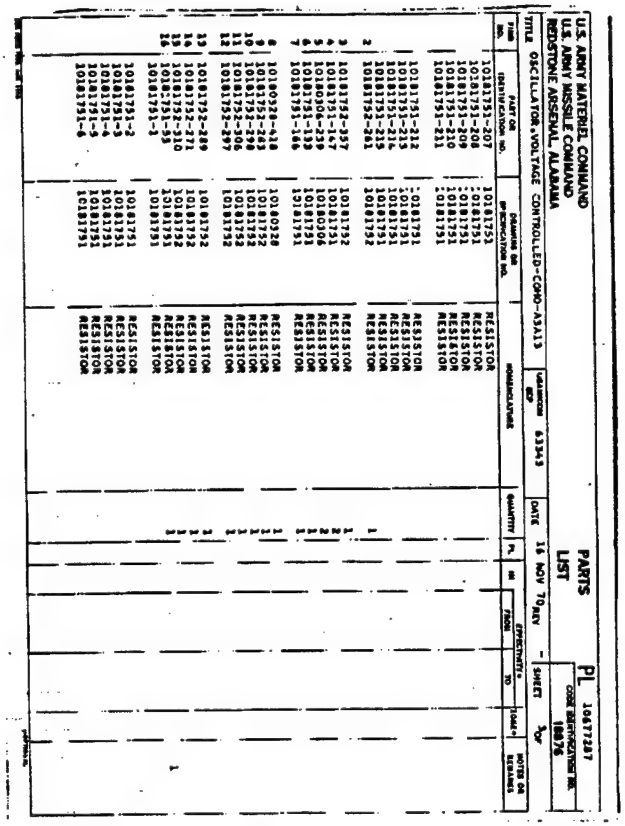
11.2.1 Validator exl

```
<!-- Entity has no name, system id or public id in formal file -->.
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "ENTRY".
   ((((#PCDATA|xref|change|emphasis|hcp|hci|ocp|
        ^^^^^^
-->
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "NOTICE".
   ((((#PCDATA|xref|change|emphasis|hcp|hci|ocp|
        ^^^^^^
-->
<!-- **Warning** in "9356-2.sgm", line 422:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "RESULT".
   <!ELEMENT result    - o (%text;,faultcode?)>
                                              /\
-->
<!-- **Warning** in "9356-2.sgm", line 622:
   There is no element with an IDREF or IDREFS attribute value equal to a
   specified ID value.
   The unreferenced ID attribute value is "X0".
-->
<!-- 4 warnings reported. -->
```

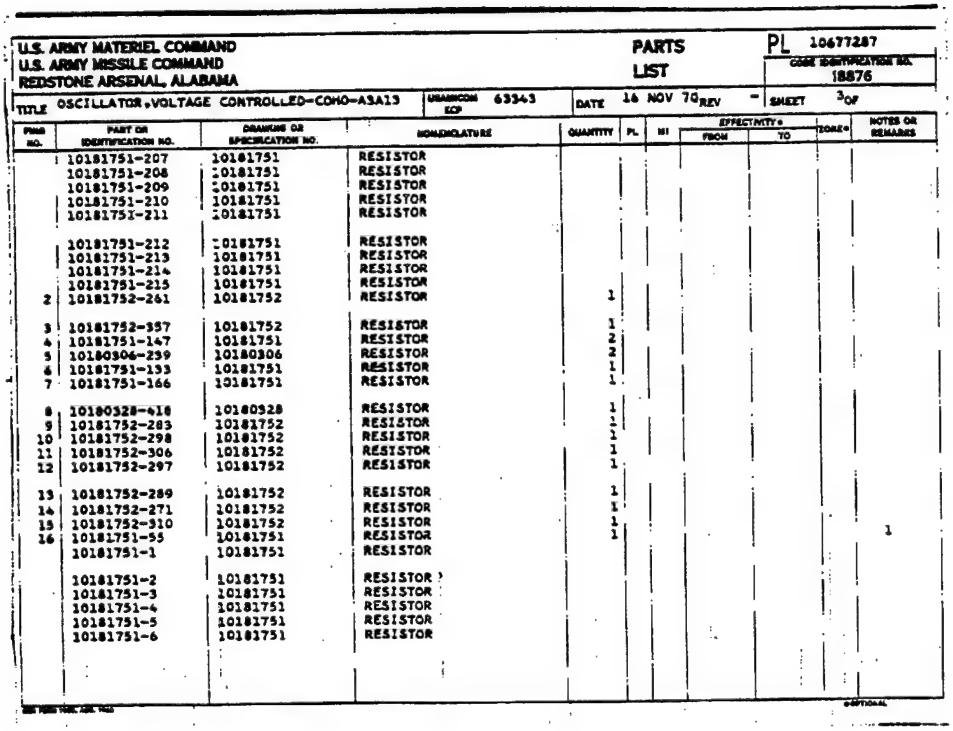
12. Appendix D - Detailed Raster Analysis

12.1 File D002R003

12.1.1 Output HiJaak for Windows



12.1.2 Output IGESView



U.S. ARMY MATERIEL COMMAND
U.S. ARMY MISSILE COMMAND
REDSTONE ARSENAL, ALABAMA

PARTS LIST

PL 10677287

CAGE IDENTIFICATION NO. 18876

TITLE OSCILLATOR,VOLTAGE CONTROLLED-COHO-A3A13 | USAMICOM ECP 63343 | DATE 16 NOV 70 REV - | SHEET 3 OF

FIND NO.	PART OR IDENTIFICATION NO.	DRAWING OR SPECIFICATION NO.	NOMENCLATURE	QUANTITY	PL	MI	EFFECTIVITY FROM	EFFECTIVITY TO	ZONE	NOTES OR REMARKS
	10181751-207	10181751	RESISTOR							
	10181751-208	10181751	RESISTOR							
	10181751-209	10181751	RESISTOR							
	10181751-210	10181751	RESISTOR							
	10181751-211	10181751	RESISTOR							
	10181751-212	10181751	RESISTOR							
	10181751-213	10181751	RESISTOR							
	10181751-214	10181751	RESISTOR							
	10181751-215	10181751	RESISTOR							
2	10181752-261	10181752	RESISTOR	1						
3	10181752-357	10181752	RESISTOR	1						
4	10181751-147	10181751	RESISTOR	2						
5	10180306-239	10180306	RESISTOR	2						
6	10181751-133	10181751	RESISTOR	1						
7	10181751-166	10181751	RESISTOR	1						
8	10180328-418	10180928	RESISTOR	1						
9	10181752-283	10181752	RESISTOR	1						
10	10181752-298	10181752	RESISTOR	1						
11	10181752-306	10181752	RESISTOR	1						
12	10181752-297	10181752	RESISTOR	1						
13	10181752-289	10181752	RESISTOR	1						
14	10181752-271	10181752	RESISTOR	1						
15	10181752-310	10181752	RESISTOR	1						
16	10181751-55	10181751	RESISTOR	1						1
	10181751-1	10181751	RESISTOR							
	10181751-2	10181751	RESISTOR							
	10181751-3	10181751	RESISTOR							
	10181751-4	10181751	RESISTOR							
	10181751-5	10181751	RESISTOR							
	10181751-6	10181751	RESISTOR							

13. Appendix E - Detailed CGM Analysis

13.1 File D002C002

13.1.1 Parser Log

```
CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  13:42:16

Metafile Examined    : i:\9356\c202.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

======================== Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report =================

CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  13:42:18

Name of CGM under test: i:\9356\c202.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "C002.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"
```

Picture 1 starts at octet offset 200; string contains: "Picture 1"

Conformance Summary : This file conforms to the CGM specification.
This file meets the CALS CGM Profile (MIL-D-28003).

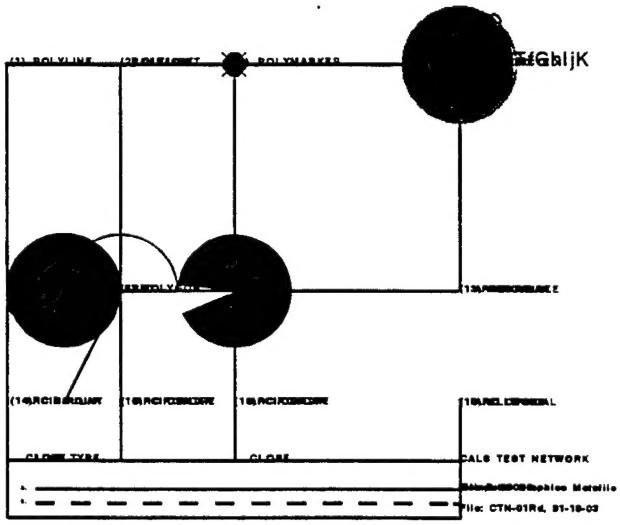
Summary of Testing Performed and Errors Found:

1 Pictures Tested
272 Elements Tested
3978 Octets Tested

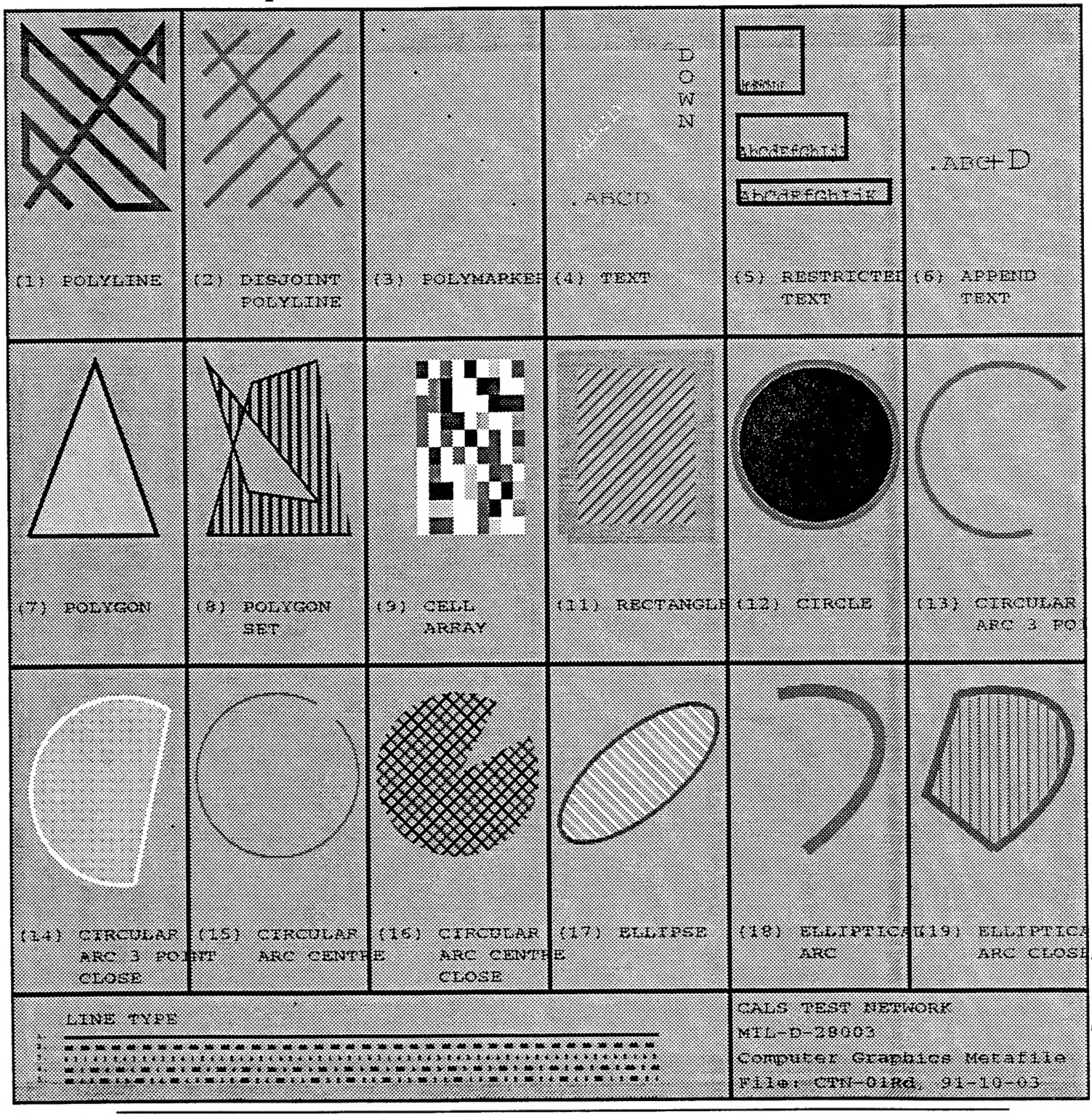
```
==================================
|    No Errors Were Detected     |
==================================
```

========== End of Conformance Report ==========

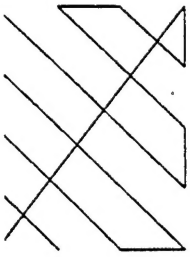
13.1.2 Output Harvard Graphics



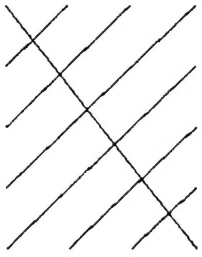
13.1.3 Output Cadleaf



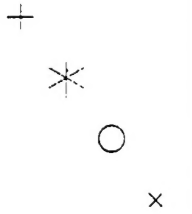
13.1.4 Output cgm2draw/IslandDraw



) POLYLINE

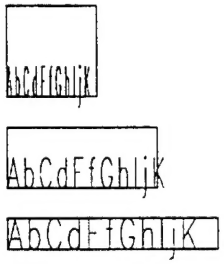


(2) DISJOINT POLYLINE

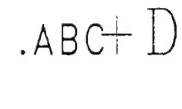


(3) POLYMARKER

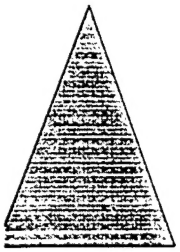
(4) TEXT



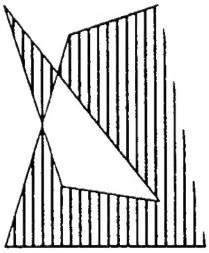
(5) RESTRICTED TEXT



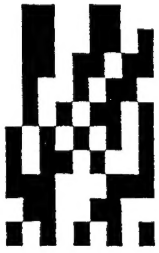
(6) APPEND TEXT



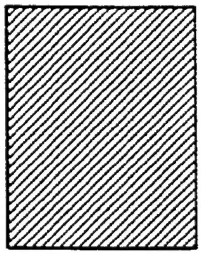
) POLYGON



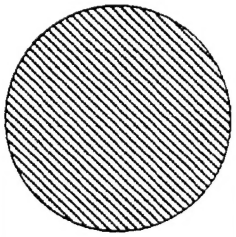
(8) POLYGON SET



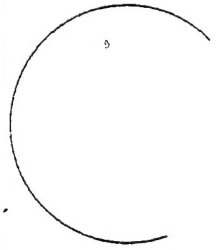
(9) CELL ARRAY



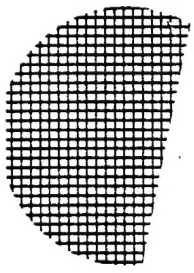
(11) RECTANGLE



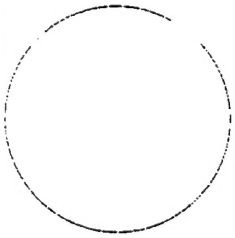
(12) CIRCLE



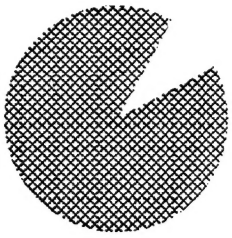
(13) CIRCULAR ARC 3 PC



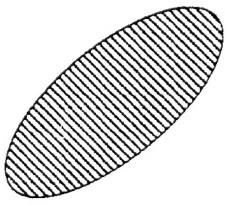
4) CIRCULAR ARC 3 POINT CLOSE



(15) CIRCULAR ARC CENTRE

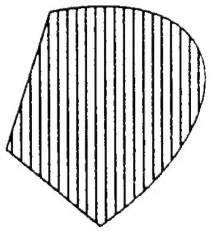


(16) CIRCULAR ARC CENTRE CLOSE



(17) ELLIPSE

(18) ELLIPTICAL ARC

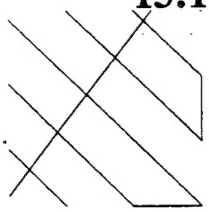


(19) ELLIPTIC ARC CLOS

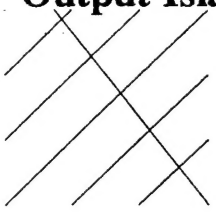
LINE TYPE

CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03

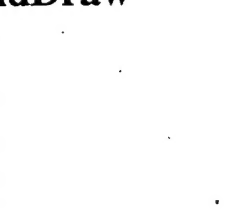
13.1.5 Output IslandDraw



POLYLINE

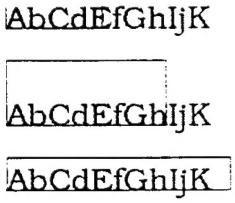


(2) DISJOINT POLYLINE

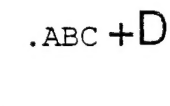


(3) POLYMARKER

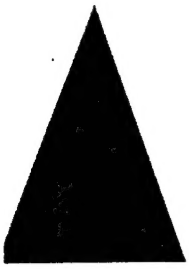
(4) TEXT



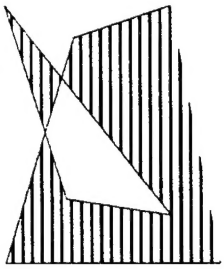
(5) RESTRICTED TEXT



(6) APPEND TEXT

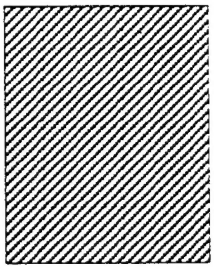


POLYGON

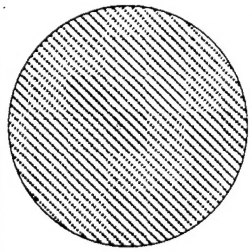


(8) POLYGON SET

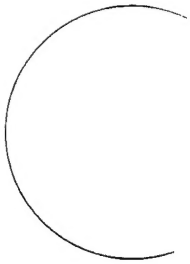
(9) CELL ARRAY



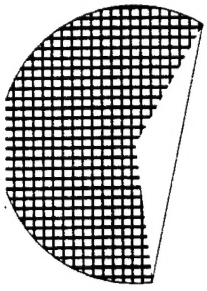
(11) RECTANGLE



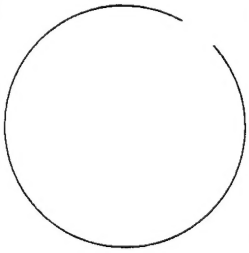
(12) CIRCLE



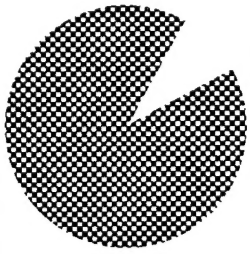
(13) CIRCULAR ARC 3 POINT



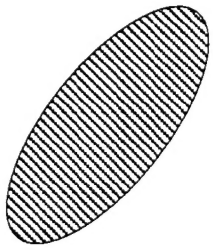
) CIRCULAR ARC 3 POINT CLOSE



(15) CIRCULAR ARC CENTRE

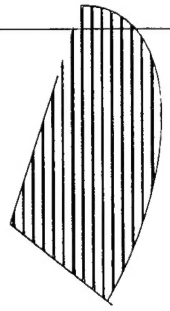


(16) CIRCULAR ARC CENTRE CLOSE



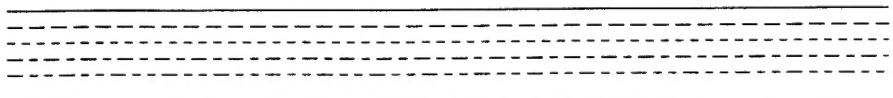
(17) ELLIPSE

(18) ELLIPTICAL ARC



(19) ELLIPTICAL ARC CLOSE

LINE TYPE



CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03